

*Subc4)*  
*BB*  
~~expanding the first end of the first tubular such that the outer diameter comes into connecting contact with the enlarged inner diameter portion.~~

## REMARKS

This is intended as a full and complete response to the Office Action dated December 5, 2001, having a shortened statutory period for response set to expire on March 5, 2002. Please enter the following amendments and reconsider the claims pending in the application for reasons discussed below.

Claims 1-18 are pending in the application. Claims 11 and 12 are allowed and claims 15 and 16 are objected to. Claims 1, 2, 4, 8, 9, 17, and 18 have been amended and claims 19 - 24 have been added.

Claims 1-10 stand rejected under 35 U.S.C. § 112, second paragraph. The Examiner states that in claim 1, line 5, "a tubular thereabove" is indefinite because the claim language does not differentiate between the tubulars. The Applicants have amended claim 1 for clarification in accordance with the Examiner's comments, obviating the rejection.

Claims 1-5 and 10 are rejected under 35 U.S.C. § 102(b) as being anticipated by *Callihan et al*, U.S. Patent No. 4,413,682. The examiner states that *Callihan* discloses a drillable cementing shoe on the end of a tubular. The housing has an enlarged inner diameter portion near the bottom of the tubular opposite a retaining sleeve. The cement shoe is in fluid communication with the tubular through a float valve. Additionally, according to the Examiner, the drillable material within the cement shoe contains voids to allow the drillable material to become dislodged when drilled.

Applicants respectfully traverse this rejection. *Callihan* discloses a method and apparatus for effecting the replacement of a cementing float shoe on the bottom of a well casing. A casing sleeve extension is disposed at the bottom of a wellbore. The upper end of the casing sleeve extension comprises a seal bore with an enlarged inner diameter that serves two purposes. The first purpose is to permit the drilling out of the conventional cement float shoe without damaging the seal bore. The second purpose is to cooperate with a retaining sleeve on a replacement float shoe. The retaining sleeve

secures the slips on the replacement float shoe in a retracted position while running the replacement float shoe downhole. *Callihan* does not teach, show, or suggest a tubular housing having an enlarged inner diameter portion at the lower end of the housing and a drillable cement shoe portion disposed in the housing. Therefore, Applicants believe claims 1-5 and 10 are in condition for allowance, and respectfully request allowance of the same.

Claims 13, 14, 17 and 18 are rejected under 35 U.S.C. § 102(e) as being anticipated by *Gano et al*, U.S. Patent No. 6,135,208. The Examiner states that *Gano* discloses, in Figure 7, a first tubing having an enlarged lower end and a second tubing which is to be expanded into the enlarged lower end of the first tubing by radial force.

Applicants respectfully traverse the rejection. *Gano* discloses an apparatus and methods for an expandable wellbore connector used for interconnecting multiple tubular members in a well. In *Gano*, a lower tubular with a sealing device is connected to an upper tubular as shown in Figure 7. In operation, a roller swage is rotated and longitudinally displaced through a portion of the lower tubular, thereby radially outwardly extending the sealing device on the lower tubular into the upper tubular. Additionally, the swage may be used to radially outwardly extend the upper tubular to a shape that enhances the sealability of the sealing device on the lower tubular prior to the insertion of the lower tubular. *Gano* does not teach, show, or suggest a connection comprising a first tubular having an inside surface and a second tubular having an expanded diameter in contact with the inside surface of the first tubular, whereby the diameter of the first tubular is not substantially expanded and an inside diameter of both tubulars is substantially the same, as recited in claim 13. Additionally, *Gano* does not teach, show, or suggest using a hydraulically operated expander tool to expand a first tubular into contact with an enlarged inner diameter of a second tubular as recited in claims 17 and 18. Therefore, Applicants believe claims 13, 14, 17, and 18 are in condition for allowance, and respectfully request allowance of the same.

Claims 6 - 9 would be allowable if rewritten to overcome the rejection under 35 U.S.C. § 112, second paragraph, and to include all the limitations of the base claim and any intervening claims. The Applicants submit claims 6 - 9 have been rewritten as new

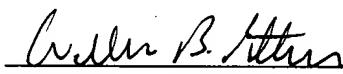
claims 19 - 22, and are now allowable. Applicants therefore respectfully request that claims 19 - 22 be allowed.

Regarding new claims 23 and 24, neither *Callihan* or *Gano*, alone nor in combination, teach, show, or suggest a method of forming a connection between two wellbore tubulars, whereby a first tubular comprises a housing of a cement shoe and a second tubular is expanded into contact with the first tubular.

In conclusion, the references cited by the Examiner, neither alone nor in combination, teach, show, or suggest the apparatus and methods of the present invention. Having addressed all issues set out in the office action, Applicants respectfully submit that the claims are in condition for allowance and respectfully request that the claims be allowed.

The prior art made of record is noted. However, it is believed that the secondary references are no more pertinent to the Applicants' disclosure than the primary references cited in the office action. Therefore, it is believed that a detailed discussion of the secondary references is not deemed necessary for a full and complete response to this office action. Accordingly, allowance of the claims is respectfully requested.

Respectfully submitted,

  
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## APPENDIX

### **IN THE CLAIMS:**

1. (Amended) A cement shoe assembly for use in a wellbore comprising:  
a tubular housing for disposal at an end of a tubular string, the housing having an enlarged inner diameter portion at a lower end of the housing; and  
a drillable cement shoe portion disposed in the housing, the cement shoe portion in selective fluid communication with [a] the tubular string [thereabove].
2. (Amended) The cement shoe assembly of claim 1, further comprising a drillable, nose portion disposed on the [a] lower end of the housing to facilitate insertion of the assembly into the wellbore, the nose portion [and] having a bore therethrough substantially coincident with a bore of the cement shoe portion.
3. (Cancel) The cement shoe assembly of claim 2, wherein the enlarged inner diameter portion is located at a lower end of the housing.
4. (Amended) The cement shoe assembly of claim [3] 2, wherein a [the] drillable material of the assembly adjacent the enlarged inner diameter portion of the housing is constructed and arranged to become dislodged from the housing when the shoe is drilled with a drill having an outer diameter smaller than the enlarged inner diameter portion of the housing.
5. The cement shoe assembly of claim 4, wherein the drillable material is weakened by voids formed therein.
6. The cement shoe assembly of claim 5, wherein the voids formed in the drillable material terminate at an inner surface of the enlarged inner diameter portion of the housing.

7. The cement shoe assembly of claim 6, wherein the voids formed in the drillable material each extend radially from a point proximate a central tubular member to the inner surface of the enlarged diameter portion.
8. (Amended) The cement shoe assembly of claim 7, wherein some of the drillable material comprises [is] a composite material.
9. (Amended) The cement shoe assembly of claim 8, wherein some of the composite material comprises [is] fiberglass.
10. The cement shoe assembly of claim 1, wherein the drillable cement shoe includes a valve member providing the selective communication with the tubular.
11. (Allowed) A method of connecting a first tubular to a second tubular in a wellbore, the method comprising:
  - providing a cement shoe assembly having a housing and drillable cement shoe, the assembly disposed at a lower end of a first tubular string;
  - cementing the housing in the wellbore by injecting cement into an annular area defined by the housing and a borehole therearound;
  - drilling the cement shoe to leave only the housing thereof, the housing having an area of increased inside diameter at a lower end thereof;
  - aligning an upper portion of the second tubular with the area of increased inside diameter of the housing; and
  - expanding the upper portion of the second tubular by placing a radially expansive force upon an inner wall thereof, until the second tubular is in frictional contact with the area of increased inside diameter of the housing and the outer diameter of the housing is not substantially expanded.

12. (Allowed) A cement shoe assembly for completion of a lined wellbore, the assembly comprising:

    a housing for disposal at a lower end of a tubular string, the housing having a first upper inside diameter and a lower, enlarged inside diameter;

    a drillable shoe portion in the housing including:

        a bore extending longitudinally therethrough for the selective passage of fluids;

        drillable material disposed in an annular area between the bore and the inside surface of the housing, the drillable material selected from a list including cement, concrete, sand and composite materials;

        a nose portion disposed on a lower end of the housing, the nose portion having at least one aperture therethrough; and

        formations formed in the drillable material adjacent the lower, enlarged inside diameter portion of the housing, the formations constructed and arranged to urge the material away from the housing when the cement shoe is drilled.

13. A connection made in a wellbore between two tubulars, the connection comprising:

    a first tubular having an inside surface; and

    a second tubular having an expanded diameter in contact with the inside surface of the first tubular, whereby the diameter of the first tubular is not substantially expanded and an inside diameter of both tubulars is substantially the same.

14. The connection of claim 13, wherein the inside surface of the first tubular is an enlarged diameter portion.

15. The connection of claim 14, wherein the first tubular is a housing of a cement shoe.

16. The connection of claim 15, wherein the second tubular includes a string of tubulars, all of which have an expanded diameter.

17. (Amended) A method of forming a connection in a wellbore between a first, larger diameter tubular and a second, smaller diameter tubular without enlarging the diameter of the first tubular, comprising:

providing the first tubular with an area of enlarged inside diameter at a lower end thereof;

locating the second tubular coincident with the enlarged inside diameter of the first tubular;

expanding the second tubular [through the use of] using a hydraulically operated expander tool to apply radial force on an [the] inside surface thereof; whereby

an [the] outer surface of the second tubular expands outward to meet and frictionally contact the enlarged inside diameter portion of the first tubular without substantially enlarging the diameter of the first tubular.

18. (Amended) A method of forming a connection between two wellbore tubulars comprising the steps of:

placing a first wellbore tubular having an outer diameter and a first end in proximity of a second wellbore tubular having an enlarged inner diameter portion and a second end wherein the enlarged inner diameter portion is proximate the second end;

inserting the first end of the first tubular into the second end of the second tubular; and

expanding the first end of the first tubular using an expander tool with radially extendable members, such that the outer diameter comes into connecting contact with the enlarged inner diameter portion.

Please add the following new claims:

19. (New) A cement shoe assembly for use in a wellbore, comprising:

a tubular housing for disposal at an end of a tubular string, the housing having an enlarged inner diameter portion located at a lower end of the housing.;

a drillable cement shoe portion disposed in the housing, the cement shoe portion in selective fluid communication with the tubular string;

a drillable, nose portion disposed on a lower end of the housing to facilitate insertion of the assembly into the wellbore and having a bore therethrough substantially coincident with a bore of the cement shoe portion;

wherein the drillable material of the assembly adjacent the enlarged inner diameter portion of the housing is constructed and arranged to become dislodged from the housing when the shoe is drilled with a drill having an outer diameter smaller than the enlarged inner diameter portion of the housing and the drillable material is weakened by voids formed therein that terminate at an inner surface of the enlarged inner diameter portion of the housing.

20. (New) The cement shoe assembly of claim 19, wherein the voids formed in the drillable material each extend radially from a point proximate a central tubular member to the inner surface of the enlarged diameter portion.

21. (New) The cement shoe assembly of claim 20, wherein some of the drillable material is a composite material.

22. (New) The cement shoe assembly of claim 21, wherein some of the composite material is fiberglass.

23. (New) A method of forming a connection in a wellbore between a first, larger diameter tubular and a second, smaller diameter tubular without enlarging the diameter of the first tubular, comprising:

providing the first tubular with an area of enlarged inside diameter at a lower end thereof, wherein the first tubular comprise a housing of a cement shoe;

locating the second tubular coincident with the enlarged inside diameter of the first tubular;

expanding the second tubular through the use of radial force on the inside surface thereof; whereby

the outer surface of the second tubular expands outward to meet and frictionally contact the enlarged inside diameter portion of the first tubular without substantially enlarging the diameter of the first tubular.

24. (New) A method of forming a connection between two wellbore tubulars comprising the steps of:

placing a first wellbore tubular having an outer diameter and a first end in proximity of a second wellbore tubular having an enlarged inner diameter portion and a second end wherein the enlarged inner diameter portion is proximate the second end and the second tubular comprise a housing of a cement shoe;

inserting the first end of the first tubular into the second end of the second tubular; and

expanding the first end of the first tubular such that the outer diameter comes into connecting contact with the enlarged inner diameter portion.